The Bulletin

of the

American Association of Nurse Anesthetists

FEBRUARY

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VOLUME XIII NUMBER I

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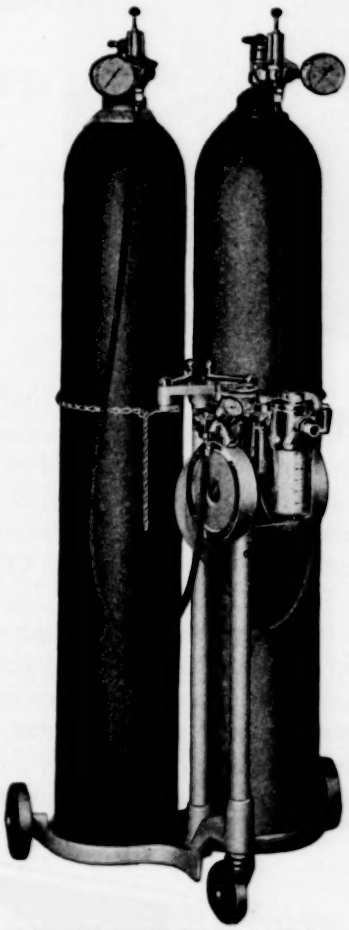

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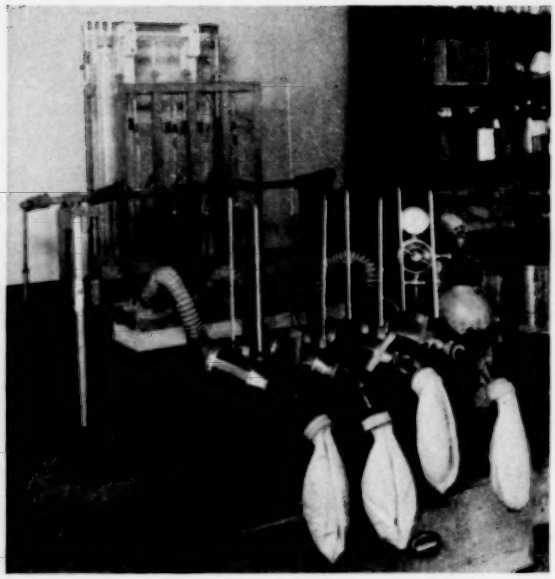

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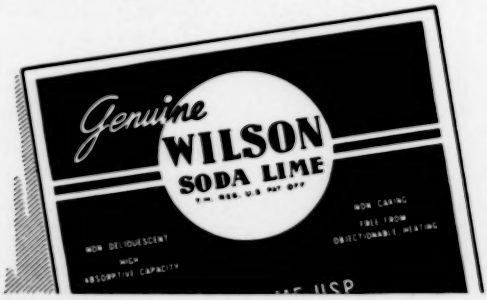

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BULLETIN OF THE AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

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The Nurse Anesthetist in the Post War Period

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IN examining your program for this afternoon, it is with considerable interest that I note that the papers to be read are all technical and are concerned with the advances and techniques in the art and science of anaesthesia—all except mine. Hence, I presume I am cast in the role of the philosopher or the prophet. I am sorry to have to admit that I am neither. I believe that no one can foretell the future except in generalities. However, we should be able to draw some conclusions from examining the present, the past and interpolating these time periods into trends.

You may rest assured that I am going to be intellectually honest and frank in my appraisal of the subject. Let us consider the problem of post war anaesthesia fairly and honestly and consider it from the standpoint of the Nurse anaesthetist, the Medical anaesthetist, the Lay anaesthetist and the Hospital Administrator. We should inspect the field for its potentialities, its opportunities, its demands, its training program and its economic side. You understand, of course, that I am not an anaesthetist. I am a hospital superintendent, hence my ideas are from that viewpoint and I hope to be able to reflect what many of us are thinking. After all, our hospitals are the major employers of anaesthetists.

Let us first examine the field of anaesthesia statistically. There are approximately seven thousand hospitals in this country where it is assumed that anaesthesia is and will be used. How about the size of these institutions in terms of bed capacity? One thousand have more than 250 beds; there are 1400 between 100 and 250 beds, leaving 4600 of less than 100 beds. I am not implying that the nurse anaesthetist will be relegated to the small hospital. However, the small hospital will always employ anaesthetists, and good anaesthesia can be practiced in a 30 bed hospital or in a large one.

The most recent figures secured from the files of the American Medical Association reveal that there are 929 registered licensed physicians who have reported themselves as giving special attention to anaesthesia and of these only 347 physicians list their practices as being limited to the specialty of anaesthesia. Furthermore, only 231 of the above 347 are diplomates of the American Board of Anaesthesiology. Twenty-four hundred hospitals of larger than 100 beds—347 physicians restricting their practice to anaesthesia! A ratio of 1 to 7. The mere obtaining of an M. D. degree is not and, in my opinion, never will be prima facie evidence that the holder of such a degree is an anaesthetist. I believe that we all would be better off if young physicians who have not developed a practice and an elderly man whose medical day is waning did not give anaesthesia.

What of the statistics regarding nurses in anaesthesia? The American Medical Association reports that from

Read at the annual convention of the American Association of Nurse Anesthetists held in Cleveland, Ohio, October 2-5, 1944.

their latest survey there are 4,051 nurses in anaesthesia of which 3,609 devote their full time to this activity and 1,242 state that they are doing part time anaesthesia. From your own executive office we obtain the information that there are 3,095 registered members of your association. May I ask, where and why are the 1,756? Perhaps we will answer this later on and I doubt if it is a question of the Association dues.

It is not known how many laymen give anaesthesia, but the number I am sure is relatively small. Because of the constant advances in the field, their lack of recognition, their background, and the lack of facilities for their training, this number will grow rapidly smaller.

Should we total the number of all anaesthetists of all groups we find that they are 5,780 individuals. Assuming that we allocate one anaesthetist per hospital we are still more than 1200 short and I need not tell you that hospitals of over 100 beds and many smaller ones must have and do have more than one person in this field. Without going into higher mathematics one may see the present shortage of anaesthesia personnel.

From what sources are these positions and their replacements to be filled? I am sure that there will be an increasing number of graduates of our medical schools who will become interested in the field and will take adequate graduate training to attain this end. May I point out right now, baldly, and succintly, that these men are the ones who are going to do the major portion of the clinical, pharmacological, physiological, and biochemical research, and the fact that they do actually give anaesthesia in many instances is of not too great importance. However, they should assume great importance because they are the ones who are in the most advantageous position to carry your own art and science rapidly forward in the manner of research. Many full-fledged departments of anaesthesia in hospitals will be created in contradistinction to hospitals merely employing anaesthetists *per se*. And may I state now that it will be a long time before the saturation point for medical anaesthetists will be reached. Neither will this saturation point, as I see it, ever represent more than a percentage of this entire field. Why? Because of the necessary long years of medical training, graduate training and relatively small number of hospitals and communities capable of sustaining this physician and to sum it up in one word —ECONOMICS.

This whole situation is unique and unparalleled in the history of medicine. In no other specialty has there ever been any feeling of competition between nurses and physicians. I believe that if you and I will be honest, there is in your thinking and in that of the medical anesthetist an element of this feeling. From the legal standpoint the nurse anaesthetist is the agent of the surgeon and he is responsible for the procedure in its entirety although you and I know who get almost insulted occasionally when things go wrong. Conversely, the medical anaesthetist from the legal standpoint is an independent contractor for whom the surgeon is not responsible. You as a nurse anaesthetist occupy a unique position since all other highly trained personnel having to do with diagnostic and therapeutic procedures are non-medical and non-nursing individuals—for example, the laboratory and x-ray technician, the dietitian, physical therapists, occupa-

tional therapists, etc. It therefore follows that you are not only nurses but are nurses who have had further training in a particular, technical, and important specialty. Your further training should be adequately compensated in a financial way. It is not at the present time for many reasons, some of which I hope to bring out in this discussion. This specialty should at all costs be guarded with vigilance. Why? The program presented here represents a view of the advancements and changes in this field. I doubt if the surface has been scratched or the beginning of the potentialities uncovered. Intravenous agents, cyclopropane, curare, endotracheal intubation and the use of helium are all what we might term recent developments. Preoperative sedation and preparation, postoperative stimulation and pulmonary management as well as gas therapy are rapidly coming within the sphere. Why have I laid stress on these new developments and trends of thought? Not merely because they are interesting but because the surgeon and the hospital are going to demand that this department be abreast of the times, medical anaesthetists, or nurse anaesthetists, in operation. Therefore, these agents and techniques *will* be used and my point here is by whom? You know, and I know that there is a fear in some quarters that the technical job of the giving of anaesthesia will be taken over by interns and residents. In a certain number of large medical school affiliated hospitals this will be a fact. It will be a fact wherever a training program is in existence for the preparation of medical anaesthetists and is thereby just and proper. However, these places, by their very nature, will always be in a small minority. In the average hospital this situation will never become a factor PROVIDED that the nurse anaesthetist by her training and skill can maintain her position of desirability and superiority in the eyes of the operating surgeon.

This leads me to training accreditation and recognition which, by the way, has a bearing in no remote way on the economic side of your existence. The standards, curriculum, prerequisites, and in fact the whole training mechanism should be, and must be, set and adhered to by your own group and not forced upon you by others or else the position of the nurse anaesthetist has lost irrecoverable ground. I am aware that there is an effort being made by the membership of your association to decide and prescribe the minimum standards for accreditation and acceptance for your training program. That effort should be worked out, decided upon, and put into effect immediately and I believe that the American College of Surgeons and the American Medical Association should have some consultatory capacity or position, and this for a very good reason. That reason being that since hospitals are the greatest users of your talents and training, even though they can and should not act in a regulatory capacity they should be given recognition to stimuate the hospitals to observe and abide by the standards which you set. We all know that there are schools, even today, which for a fee, accept nurses for so-called training in anaesthesia. This training consists of a short time of instruction in the matter of which knob to turn if the patient is awake and kicking, and which knob to turn if the patient is blue. Some of them also toss in a training in laboratory and x-ray technicianship for good measure. We all know that this type of thing is doing your field harm even

though your association will not recognize them for membership. Still some hospitals, I am sorry to state, accept this type of product. I presume it is on a basis of cheap labor, the balance sheet, and lack of interest in the patient except whether or not he pays his bill. The American Hospital Association, therefore, should itself exert some disciplinary, or at least instructive, action upon its members who do not adhere to the accepted standards, not only theirs, but yours, as should our other regulating bodies, the American College of Surgeons and the American Medical Association. However, even though this is "our business" it should be of primary interest to you as an expediency and an aid in accomplishing your purpose. It should be the duty and prerogative of the American Hospital Association to, "Clean its own house" and this will be expedited by your actions as you show us that your standards are such as to make our house cleaning not only desirable but necessary.

The first step in such a program is to be assured of adequate teaching centers both in numbers and in quality. To reiterate a previous confession, I am a hospital superintendent, not an anaesthetist, and am, perhaps, not in a position to judge, but from a cold analytical standpoint it seems to me that the person who has devoted his whole long educational period consisting of college, medical school and residency, (roughly twelve years) to the study of physiology, pharmacology, and pathology of respiration might well be the logical candidate for at least consultatory service to such training centers. I am now thinking in the terms of a long range picture, realizing that in times like these a war time expediency of the short course is probably necessary. Should it be continued in normal times, it would not, I believe, be conducive to the maintenance and elevation of the standards which I am sure that you and I desire if the nurse anaesthetist is to keep pace and keep place.

In summary, therefore, I have attempted to point out the following:

1. There is a shortage of anaesthetists of all groups in this country, and was even before the war.
2. There is an opportunity for nurse anaesthetists.
3. There will continue to be an opportunity for nurses in anaesthesia.
4. The art and science of anaesthesia is one of the most rapidly developing specialities in medicine.
5. There is no conflict in nurse and medical anaesthesia.
6. There is no conflict between nurses in anaesthesia and general intern and resident training programs.
7. It behooves and is mandatory that nurses in this specialty keep abreast of the field, and keep a *logical* and *rational* viewpoint.
8. That the organized group set and maintain adequate standards of training and performance in co-operation with other regulating bodies.
9. That hospitals refuse to recognize, by employment, diploma mills, and inferior schools in anaesthesia.

In closing may I state that if I have given you something to think about, or to question, my purpose has been satisfied.

Anesthesia and the Cardiac Patient

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IT IS a far cry from the methods of anesthesia of the ancient Egyptians with narcotics, the use of hashish by the Chinese, asphyxia by strangulation by the Assyrians and cerebral concussion by striking a wooden barrel placed over the head, to the anesthesia of 1944. Even greater strides have been made in the technique of anesthesia due largely to the chemical and physiologic studies and the development of anesthesia as a specialty. In the days of my own internship the Junior was given the job as anesthetist—often with little or no supervision. The results were varied and uncertain and the brunt was borne both by surgeon and patient.

The problems of the anesthetist are many. Foremost is that of the patient with some type of disease of the circulation. The natural questions are: Is it safe to operate? When shall the operation be done? What is the anesthetic of choice? This paper is an attempt to answer these questions in the light of our experience at the University Hospitals.

Read at the annual convention of the American Association of Nurse Anesthetists held in Cleveland, Ohio, October 2-5, 1944.

The success of general anesthesia depends upon anatomic, chemical and physiologic factors. The severity of the structural damage to the heart muscle or coronary arteries, the intactness of the lungs to provide sufficient gaseous exchange to prevent anoxia, a normal number of red cells and hemoglobin to transport oxygen, an adequate store of glycogen in the heart muscle, liver and somatic muscle, a normal acid-base equilibrium and an adequate store of water—all these factors determine in a large measure the success or failure of the anesthetist. Let us review briefly the several physiologic factors underlying anesthesia. Anesthesia causes a decrease in the available store of glycogen and an accumulation of acid metabolites (lactic and phosphoric acid). These two factors may play an important part in the development of cardiac distress and acidosis during or after anesthesia. Gly-

cogen store is necessary for the normal functioning of the heart. The normal resynthesis of glycogen from lactic acid is disturbed. The accumulation of lactic acid interferes with the normal cardiac function. Normally the store of glycogen is adequate but in hyperthyroidism and diabetes there may be an insufficient store if the patient is not properly prepared preoperatively by iodine and by insulin. Other factors such as starvation and coronary artery disease may be important factors in reducing the store of sugar in the tissues of the heart and elsewhere. Thus cardiac arrhythmias may result from impaired chemical and anatomic states of the heart. In the order mentioned, chloroform, ether, and nitrous oxide may produce cardiac irregularities. Anesthetics cause an initial rise in blood pressure and later a fall. The heart rate may be accelerated or slowed. The body does not contain a significant store of oxygen so that interference with the supply and transport quickly results in anoxia of the blood and tissues (including those of the brain and heart). It is important that the oxygen supply be adequate to prevent anoxia, and likewise it is important that the respired air contain an optimum percentage of carbon dioxide so that hyperventilation, and with it alkalemia, does not occur. Thus every effort should be made to avoid increasing the work of the heart by avoiding tachycardias, arrhythmias and hypertension. Changes in the PH of the blood likewise would be avoided because this factor predisposes to pre-fibrillation arrhythmias (acidosis or alkalosis). Kurtz *et al.*[1] studied the electrocardiograms during anesthesia and found abnormalities in seventy-nine percent of the cases. Levine[2] reported on cases of so-called acute dilatation of the heart during operations and found paroxysmal auricular tachycardia, auricular flutter and auricular fibrillation. Prompt recognition of the condition and appropriate treatment result in cessation of the attacks.

Risk of Operation Upon Cardiac Patients

In cardiac cases there are situations demanding operations such as cancer, acute appendicitis, strangulated hernias, intestinal obstruction, acute gall bladder disease, renal calculus, and tubal pregnancy. While there is an added risk in operation, the danger without operation may be infinitely greater. Congestive failure is a contraindication to operation, unless the operation cannot wait. We know that anesthetics increase the burden of the already taxed heart and further diminish the cardiac reserve. They must be carefully chosen. The anesthetics of choice are ether, nitrous oxide, and ethylene. The ever alert anesthetist can do much to cut down operative mortality. Avoidance of anoxia will do much to prevent anesthetic (and/or operative) mortality.

Marvin[3] has stated that "a damaged heart, whatever the physical signs, is the equivalent of a normal one for anesthesia and operation if it is carrying on an adequate circulation under normal conditions of life." This opinion is shared by many observers (Levine et al.)[4].

Experiences at the University Hospitals

In a total of 61,928 operations from 1938 to 1943 there were eighteen deaths during operation and under anesthesia (or one in 3,864 cases). Of the eighteen cases there were five cases in which the anesthetic may have been a factor (or one in 12,385 cases). Of the five cases

three were in good condition prior to operation and were apparently in good health. Two patients were in a precarious state—one a case of brain tumor with greatly increased intracranial pressure (avertin and ether) and the other patient was intensely jaundiced and died five minutes after the start of the anesthetic (nitrous oxide, oxygen and ether). Of these five cases there was one patient with known circulatory disease (hypertension) or one case in 61,928 cases. These figures may be compared with those of Willius[5] who reported that in 10,000 anesthesias there was not one cardiac death.

Table I is a summary of the deaths during operation at the University Hospitals from 1938 to 1943 with the anesthetic given.

TABLE ONE

Anesthetic	*Number of Cases*
Avertin and G. O. E.	4
G. O. E.	9
G. O.	1
Ether	2
Procaine and G. O. E.	1
Local	1

The operations being performed during which death occurred:

Laparotomies	8
Brain Operations	3
Chest Operations	3
Hemorrhoidectomy	1
Reduction Os Calcis	1
Fascia lata transplant	1
Dilatation of cervix with air injection	1

The ages of the patients varied from three to fifty-four years with an average age of 41.1 years for the fourteen adults. There were twelve females and seven males. There were post-mortem studies made on four cases. Case 5 died of pulmonary embolism originating in the inferior vena cava; Case 8 (angioendothelioma of the right chest) died of surgical shock; Case 12 (exploratory laparotomy) died of hemorrhage of the hepatic artery; Case 13 (memorrhoidectomy) probably died of reflex cessation of respiration. Other causes of death were shock, rupture of aortic aneurysm, edema of the brain, air embolism and pulmonary embolism.

Heart Operations at University Hospitals

More than one hundred operations have been performed directly on the heart at the University Hospitals with but one operative death. Thirty-seven patients with severe coronary artery disease with angina pectoris were operated upon for the purpose of augmenting the blood supply to the heart, without a single immediate operative death. This was in the face of severe coronary artery disease. Several of these patients had suffered myocardial infarction. There were nine operations for acute and fifty-two operations for chronic cardiac compression with one death.* This occurred at the close of the operation and may have been due to sudden cardiac decompression. The other operations consisted of removal of foreign bodies, wounds, removal of tumors of the heart, repair of aneurysm of left ventricle and patent ductus arteriosus.

Role of the Anesthetist

The anesthetist is of great aid to the surgeon during operation. Cyanosis (anoxia), sudden changes in the pulse rate, and blood pressure all indicate that every effort be made to stabilize the anesthetic and during this period the

*This case preceded present series.

operation should be halted. This is especially true of the cardiac and chest operations, although traction on abdominal viscera may initiate reflexes reflected in respiration, blood pressure and pulse rate. For the anesthetist, it is important to avoid anoxia, prolongation of the stage of excitement, and hyperventilation, thus avoiding disturbances in the glycogen resynthesis in the heart, alkalosis, and great increases in both venous and arterial pressure.

Discussion and Conclusions

In this paper we have attempted to review briefly the physiologic principles underlying anesthesia and to determine the operative risk to cardiac patients and to those with no cardiovascular disease. The importance of the anesthetist in the role of guide to the surgeon has been stressed. Frequently no definite cause of death during anesthesia can be established. The occurrence of an extrasystole at the end of the systole may initiate ventricular fibrillation. Shock, reflexes causing sudden cardiac and respiratory paralysis, status thymolymphaticus, hemorrhage and sudden changes in cardiac rhythm, may be the cause of death. An intensive study of the literature has been made and 61,928 anesthesias (1938-1943) have been reviewed. In the 61,928 anesthesias there were eighteen deaths during operation of which number but one patient had cardiovascular disease. In the more than one hundred heart operations, observed and studied, there was one death during operation. In the light of these findings we conclude that heart and blood vessel disease adds little to the operative anesthetic hazard. Operations of necessity should be performed if the patient is not *in extremis*. The anesthetic and the anesthetist should be carefully chosen and all possible precautions taken.

BIBLIOGRAPHY

1. Kurtz, Chester M., Bennett, James H. and Shapiro, Herman: Electrocardiographic Studies During Surgical Anesthesias. *J.A.M.A.* 106:434, Feb. 8, 1936.
2. Levine, S.A.: Acute Cardiac Upsets Occurring During or Following Surgical Operations. Their Mechanism and Management. *J.A.M.A.* 75:795, Sept. 18, 1920.
3. Marvin, H. M.: The Heart During Anesthesia and Operative Procedures. *Arch. Int. Med.* 35:768, June 1925.
4. Butler, S., Freeney, N. and Levine, S. A.: The Patient with Heart Disease as a Surgical Risk. Review of 414 Cases. *J.A.M.A.* 95:85, July 12, 1930.
5. Willius, Frederick A.: Anesthesia in Heart Disease. *Bulletin National Association Nurse Anesthetists.* Feb. 1938.

TABLE TWO

OPERATION	*ANESTHETIC*	*PATIENT*			*ASSOCIATED DISEASE*	*FINAL DIAGNOSIS*	*PROBABLE CAUSE OF DEATH*
		Age	*Sex*	*Color*			
1. Laparotomy	Avertin and GOE	38	F	Col	None	Fibroid uterus	Cardio - respiratory collapse
2. Panhysteromyomectomy, left and right salpingectomy, appendectomy	Avertin and GO	32	F	Col	Alcoholism Hemorrhage	Fibroma of uterus, chronic salpingitis	Cardio - respiratory collapse; possible avertin intoxication
3. Partial excision of meduloblastoma, cerebellar transfusion	Avertin and ether	11	F	Col	None	Astrocytoma of vermis of cerebellum; involvement lateral lobes of medulla	Respiratory paralysis due to operation

TABLE TWO—*Continued*

OPERATION	ANES-THETIC	PATIENT			ASSOCI-ATED DISEASE	FINAL DIAGNOSIS	PROBABLE CAUSE OF DEATH
		Age	Sex	Color			
4. Fascia lata transplant	GOE	13	M	Col	None	Traumatic ptosis of right upper lid of eye	Cardio-respitory collapse. ?
5. Ligation of right femoral vein, mid-thigh amputation of left leg	GOE	44	F	W	(Bad operative risk)	Thrombosis of inferior vena cava	Pulmonary embolism
6. Laparotomy, lysis of adhesions with relief of strangulation	GO and Local	50	F	W	None	Acute intestinal obstruction	Shock
7. Exploratory Thorocotomy	GOE	50	F	W	Aneurysm	Aneurysm of aortic arch	Rupture of aortic aneurysm; massive hemorrhage
8. Removal of tumor of right chest	Ether	3	F	W	None	Angioendothelioma of chest wall	Surgical shock
9. Excision of sphenoidal ridge meningioma	Local	53	M	W	None	Meningioma	?
10. Combined abdominoperineal resection	GOE	36	F	W	None	Adenocarcinoma of breast with metastases	?
11. Left Pneumonectomy	GOE	54	M	W	Remote basal and posterior myocardial infarction	Bronchogenic carcinoma of lung	Hemorrhage
12. Exploratory Laparotomy	GOE	45	M	Col	Jaundice	Adenocarcinoma of pancreas	Hemorrhage from hepatic artery
13. Hemorrhoidectomy	Local 1% procaine	35	M	W	Chronic alcoholism, early portal cirrhosis	Internal hemorrhoids with bleeding	Reflex cessation of respiration; Sensitivity to procaine
14. Cerebellar exploration, removal of part of right cerebellar lobe	Avertin and ether	20	F	W	None	Neoplasm of brain	Edema of brain
15. Dilation of cervix with air injection	GO	30	F	W	None	Air Embolism	Air Embolism
16. Resection portion of ilium	Ether	3	M	W	None	Intestinal Obstruction	Hemorrhage; Surgical shock
17. Exploratory Laparotomy	Procaine GOE	51	M	Col	Hypertensive cardiovascular disease; auricular fibrilation; embolism mesenteric artery; enlargement of heart; latent syphilis	Embolism of Mesenteric artery	Shock from mesenteric thrombosis
18. Proposed common duct exploration	GOE	51	F	W	None	Obstruction of common duct	?

Sodium Pentothal Anesthesia

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SINCE the beginning of the anesthetic period, both the anesthetist and surgeon have been hoping to find the anesthetic agent which would produce rapid induction, quiet breathing, normal color, no salivary secretion and complete surgical relaxation, also one that would be rapidly eliminated and could be given with a maximum of safety—an agent that did not alter the function of the organs, and one from which recovery occured without nausea or vomiting. Our practical experience has proven that Sodium Pentothal possesses all these properties.

Sodium Pentothal is a lemon yellow powder with the bitter taste associated with all the barbiturates. It has a slight sulphuric odor and effervesces when mixed with water.

I would like to present to you our experiences and observations of the Pentothal cases at the Georgia Baptist Hospital since we began its use in 1938. We feel that Pentothal has been put to a considerable test in all types of unselected operations. We have used it in over 10,000 operations without loss of a patient.

Read at the annual convention of the Georgia Association of Nurse Anesthetists held in Atlanta on April 12 and 13, 1944.

Type of Operation	*No. of Cases*
General surgery	6229
Gynecology	2399
Orthopedics	361
Proctology	645
Genito-Urinary	389
E.E.N.T.	345
Neuro-surgery	12
Dental surgery	75
Thoracic surgery	15
Total	10,470

Characteristics and Uses of Pentothal

1. It is introduced directly into the bloodstream, reaching the brain in 10 seconds without having to be absorbed by way of the lungs. In this way the irritation of the mucus membrane of the nose, throat, trachea and bronchi is absent. Also the period of excitement is avoided.
2. It is very pleasant to take and if a repeated anesthetic is necessary the patient has no dread of taking it.
3. The drug is rapidly detoxified and eliminated.
4. It may be repeated at frequent intervals with safety.
5. The patient awakens as if from a normal sleep with no nausea or vomiting, unless it is caused by the preliminary hypodermic.

6. It produces relaxation comparable to a spinal if a large enough dose is given.
7. The pulse varies very little either in rate or volume.
8. Pentothal is a slight vaso-dilator and the blood pressure frequently, although not always, drops from 10 to 15 points just after induction. However after surgical anesthesia is established it regains its normal status, except in cases of rough handling of the tissues and trauma or loss of blood which can be considered surgical shock rather than from the anesthetic agent.
9. The respiration is slow and quiet, and the color is pink. We give oxygen with all cases to insure this. Respiration may be stimulated by giving oxygen by the closed method.
10. The skin is warm and dry with no loss of body fluids.
11. It is cumulative in its action in the sense that the longer the anesthetic continues the smaller is the supplementary dose required to maintain it.

It is especially indicated for surgery around the head and face where it is important for the anaesthetist to keep out of the way of the surgeon.

Our youngest patient was 20 months old who had a laceration just under the eye which required 40 minutes to repair. This patient had 0.2 of a gram of pentothal and was awake at the end of the operation. Our oldest patient was 96 who had a large sarcoma on her neck. Both of these patients reacted favorably to the anaesthetic with no complications.

Most authorities argue that children under 12 years should not be given this drug, but we have used it in many children for appendectomies and even tonsillectomies. Children do sleep longer than adults and sometimes require as large a dose, especially in the adolescent stage. We advise the parents of the fact that the child may sleep for several hours so that they will not be alarmed.

Fair or poor risk patients tolerate Pentothal better than any other anaesthetic agent, but as a rule an anemic or debilitated patient does not require as large a dose as a healthy, normal individual. Our largest dose is 5.5 gms. given to a very obese patient having an abdominal operation. She was trying to push the air-way from her mouth when being taken back to her room.

Procedures and Equipment

Giving pentothal, after all, is just the use of plain common sense. The results are what we are striving for. We all know that no two patients require the same dosages of any drug and some operations require deeper anaesthesia than others. If a patient needs relaxation for certain types of operations, then, as in the use of other anaesthetic agents, we give the necessary amount.

Brain surgery requires long hours but as a rule small doses of Pentothal because the surgeon uses large quantities of novocain. Some operations requiring deeper anaesthesia are those on gall-bladders, stomach operations, skin grafts, esophagospies and broncoscopies. A word about the latter two. About 15 minutes before operation have the surgeon spray the throat, tongue and pharynx with a 4 to 10% solution of cocain. This abolishes the throat reflexes and any laryngeal spasm which might occur when the broncoscope or esoghagoscope are inserted.

Hiccoughs frequently occur under light anaesthesia when there is any manipulation of the gallbladder or

stomach or pulling on the mesentary or peritoneum. It is controlled by giving more pentothal and rebreathing the patient with Carbon Dioxide 20% and Oxygen 80%.

For giving Oxygen we use a B.L.B. face mask with the Ohio liter gauge on a large commercial oxygen tank. We use the Rudder syringe holder which makes it possible for one anaesthetist to give the anaesthetic, oxygen and saline and still have both hands free.

We give almost routinely 1000 cc's of Normal Saline with Glucose 5% intravenously into the same vein by using a two-way adapter for this purpose. A blood transfusion may be given through this same method. A Normal Saline solution, 1000 cc's and Alcohol 5%, with Glucose 5% (Baxter) is a good stimulant, although frequently the Alcohol tends to make the patient drunk for several hours. When a stimulant is necessary Metrazol 2 cc's or Coramine 1½ to 3 cc's may be given into the same intravenous needle. When a patient comes to surgery with a low blood pressure we put into the saline 10 cc's of Adrenal Cortex. This is slow acting but helps to maintain a better blood pressure after the operation.

It is generally conceded that for any operative procedures the administration of adequate preliminary medication will reduce the amount of Pentothal required and will assist in a smooth and rapid induction. The usual premedication is a Barbiturate the night before the operation. The next morning, two hours before the operation, repeat the Barbiturate, then 45 minutes before operation give Morphine gr.¼ or Pantopon gr.⅓ and Atropine gr.1/150. Atropine is definitely a necessity as it reduces pharyngeal secretions and laryngeal spasm. A 1% Novocain solution may be used as a local anaesthetic which will reduce the amount of Pentothal required.

The following articles are put in sets, wrapped and autoclaved:

1. One two-way adapter for saline and glucose.
2. Two medicine glasses to mix the solution.
3. One hypodermic syringe and needle for Novocain.
4. Two 50 cc syringes.
5. One 5 cc syringe.
6. One No. 15-5 inch needle to mix the solution.
7. One No. 21-1 inch neeedle to insert into the vein.
8. One No. 14 French catheter, cut 12 inches long with a B-D metal adapter at one end to fit on the syringe and a B-D glass adapter at the other end to fit into the No. 20 needle.

Technique of Administration

Just before the patient is brought into the operating room the solution is mixed, put into the syringe and placed into the Rudder holder which has already been fastened on the arm board. Now the anaesthetic is ready to begin immediately. A 2.5% solution is made by mixing 1 gram of Pentothal crystals in 40 cc's of distilled water. The blood pressure apparatus is put on the arm not used for venipuncture and tucked close in by the side. The arm used for venipuncture is fastened securely on the arm board. A vein, preferably in the cubital fossa, is selected, the tourniquet is applied and a 1% solution of Novocain is injected just under the skin over the site of puncture. Then the 20 gauge needle on the 5 cc syringe is inserted into the vein, the tourniquet is released, the syringe removed, and the adapter

attached to the catheter is applied to this needle. Use adhesive tape to keep this in place. Now the anaesthetic is ready to begin. Be sure to remove the air from the tubing. You may have the patient count during the induction or just watch for unconsciousness. Usually it takes from 7 to 10 cc's for induction. Then the B.L.B. mask is placed over the face and 3 liters of oxygen are started. While the patient is being prepared, 2 or 3 more cc's are given. Ask the surgeon to pinch the skin with an Allis clamp and if the patient moves, give enough pentothal to abolish the skin sensation. Then the operation may proceed. The patient is the sole guide to the amount of pentothal given. Sometimes it is necessary to give ¾ to 1 gram before sufficient relaxation is obtained. The speed in which pentothal is given is governed by the rate and depth of the respirations. Once a patient is relaxed, very little anaesthetic is necessary. The respirations should be slow, regular and quiet. A clear airway must be maintained at all times. The throat reflexes are not always abolished immediately, so when inserting an airway, if the patient swallows or shows any signs of resistance, remove the airway immediately and give more Pentothal. In this method you will never get a laryngeal spasm. If a spasm should occur, force oxygen and as soon as respirations are resumed get the patient deeper under the anaesthetic.

The eye signs are insignificant except the position of the eye. The pupil is small and rather sluggish in reaction to light. When the eye is not focused in the center it is, as with other anesthetics, indicative of light anesthesia; however, there may be enough relaxation for a major operation. The depth and rate of respirations are the best signs to determine the depth of anaesthesia. Very few patients need any anaesthetic after the peritoneum is closed. Sometimes after the patient is returned to the room, the nurses frequently become alarmed over the respiration if it drops to 14 or 16. We never worry about this if the color and pulse are good. If one does get apprehensive about it, Coramine 2 cc's or Metrazol 2 cc's may be given intravenously. Continuous oxygen after the patient returns to his room helps him to react more quickly and maintains a more normal blood pressure, especially in long major operations. When a patient has had a long major operation and a rather large dose of Pentothal, he will probably sleep for several hours. This alarms some Doctors until they are accustomed to it, but if the color, pulse and respiration are good, we don't worry about it. Frequently the blood pressure drops after the patient has returned to his room. When it does, we give stimulant, such as Neosynephrin intramuscularly, or normal saline and glucose I.V. or Adrenal Cortex 5 or 10 cc's I.V.

Sometimes, when a patient first reacts, he may be restless and apparently awake and in pain. The first inclination is to give a hypodermic. We caution the nurses not to give a hypo at this time, as it will only cause the patient to sleep longer, and usually, if the patient is restless, it does not last but about 10 minutes until he will go back to sleep, later reacting quietly, with no memory of the previous awakening.

One unexplained reaction symptom is that a patient may have is double vision and inability to focus the eyes. This clears up in a day or two with apparently no serious results. Another symptom which occurs very rarely and is sometimes attributed to Pentothal is

a rise in temperature to 102 or 103 degrees within 10 or 12 hours after operation. This is sometimes accompanied by a fine red rash which also subsides in about 24 hours.

Summary

1. Sodium Pentothal is non-irritating, giving a smooth and rapid induction.
2. The pulse and respiration are more nearly normal than with any other anesthetic.
3. The color is pink and the skin warm and dry due to no loss of body fluids.
4. Good surgical relaxation is obtained when given properly.
5. No nausea and vomiting are present except when the patient is susceptible to the narcotic.
6. Pentothal is very pleasant from the standpoint of the patient and there is no dread of a repeated anesthetic.
7. It is a safe anesthetic agent given by an anesthetist who is familiar with its action.

New Executive Secretary of A.A.M.R.L.

Mrs. Adaline Hayden, the newly-appointed and first Executive Secretary, A.A.M.R.L., brings to this position a wealth of background and training in medical record administration, and fourteen years of experience as an officer or committee-member in the A.A.M.R.L. The appointment was made at the post-convention meeting of the Executive Committee, A.A.M.R.L., in Cleveland, October 6, and Mrs. Hayden took office November 1, 1944, in quarters graciously provided by the American Hospital Association, at 18 East Division Street, Chicago, Illinois.

Mrs. Hayden is eminently fitted for the difficult task of coordinating the files and duties of the various officers and committee-chairman of our association into one central office operating under the supervision of the Executive Committee. From 1924 until 1943 she was actively engaged in record work, first at the Indiana University Medical Center and then at the University of Chicago Clinics. She has been a member of the A.A.M.R.L. since 1929, and has held office steadily since 1932—in fact she resigned as councillor to accept the position as Executive Secretary. The variety of offices held by our Executive Secretary in the past, augurs well for smooth coordination in the future: Membership Committee, 1932; Treasurer, 1933-1936; Bibliography, 1937-38; Board of Registration, 1939; Chairman Board of Education, 1940; President-Elect, 1940-41; President, 1941-42; Councillor, 1942-44.

She has made her home in Chicago for many years, and has taken an active part in local MRL groups. She is a past-president of the Chicago and Cook County Chapter of MRL. Thus she is both familiar with all aspects of our national organization, and with the many other executive offices maintained in Chicago by allied hospital groups. She is intensely interested in the educational program of the association, and is familiar with its development. In 1939 she served on the Faculty for the MRL Institute at the University of Minnesota, and in 1942 for a similar institute sponsored by the Catholic Hospital Association.

The Speaker's Voice and Speech Correction

AMY BISHOP
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SCIENTISTS from many fields of specialization have said that there is no greater miracle than the human voice. There are factors in each scientific field allied to speech which continue to baffle experts. In the realms of physics, the exact nature of the vibration of the vocal cords and the phenomena of hearing have not as yet been satisfactorily explained. It is interesting to observe that research upon the human voice in the Bell laboratories has led to many improvements upon such instruments as the radio and the telephone, but that no one has ever seen the sound waves whose progress through air are the basic physical consideration in the transmission of human thought.

There are unanswered questions also in the field of medical science as applied to speech. Experts are unable to do more than describe stuttering, and, although many factors contributing to what is known as cleft palate are known, no one has exact knowledge as to its causation. Hundreds of thousands of American citizens are afflicted with these and other unsolved speech problems.

Read at the annual convention of the American Association of Nurse Anesthetists held in Cleveland, Ohio, October 2-5, 1944.

Members who attended the convention responded so favorably to Miss Bishop's paper that we feel that everyone who did not hear it should have an opportunity to read this important message.—The Editor.

Phonetics and Sound Perception

At first glance, phonetics and linguistics seem to provide the most concrete field of study of human speech. Since the phonetic alphabet and modifiers are man-made, it should be possible, theoretically, to invent a sufficient number of symbols to represent all vocal phenomena. Nevertheless, as in so many so-called exact sciences, the human element enters in. In this case, it is the fact that human speech must ultimately be perceived by human ears before it can be interpreted as sound, and that few of us possess perfect hearing.

So we see that the phenomena which all of us know as human speech and phonation provides much controversy in medical circles, among physicists, and even among linguists. Yet we all speak and vocalize in spite of the fact that modern science is, as yet, unable to account for it fully. Each of us possesses a physical instrument capable of producing sound—harmonic or nonharmonic—in complex tone patterns, and very few of us doubt our own ears. We assume that what *we* perceive and

experience when a speaker is applying breath supply to set the vocal cords in vibration, which results in tone to be later resonated, placed, and projected, is what *everyone* perceives. I suppose that no professional worker finds as many amateur critics and judges as a worker in the field of voice and diction. Probably you will feel that the field of nursing is likewise beset with gifted amateurs. I imagine that even if your patient is too much in need of your services to criticize or compliment you upon your techniques, as soon as he recovers sufficiently he tells fantastic tales of having advised you upon the pursuit of your profession throughout his surgical ordeal.

The truth of the matter is that no one likes to feel at any time that he is not complete master of himself. It is humiliating and frustrating to have someone consider you, as a speech teacher is apt to, as a sound-producing instrument. If you ask ten of your friends what they think about their own voices, you will probably find that seven of the ten do not feel very confident about their own voices, but that all will hotly defend their own vocal gymnastics on the grounds that they are natural.

Of course, you and I are aware that speech is an imitated and acquired characteristic. Anyone is capable of producing several types of tone, depending upon muscular adjustments in the vocal mechanism. But you may find yourselves defending your own voices as natural just as some of us have found ourselves giving advice to experts in your field under the strain and stress of the operating-room battle to remain conscious.

When considering the human voice, it is always important to remember that speech is a completely overlaid function of most of the organs responsible for the net result. Breath from the lungs is not simply stored awaiting an opportunity to speak; it is essential to life itself. Even the larynx, the source of vibration, has functions of greater importance to the business of living. All of the resonators and sounding boards sustain life functions as well as aid in speech. Therefore, complete control over voice presents a complex problem.

Problems in Hearing Oneself

The psychological factors involved in hearing oneself accurately present perhaps the greatest hazard of all. Because each one of us possesses the illusion of hearing himself, we are the harder to guide. Physicists tell us that this illusion is completely untrue. That there is such tremendous vibration going on within the body structure of the head during speech that our own conception of voice cannot help but be inaccurate. They say that the bitter truth of the matter is that our ears are not well placed for self-analysis. This is naturally infuriating to anyone who has always associated a fine stentorian tone with himself. Electric transcriptions of one's own voice likewise present hazards. Much as no one really thinks he looks like the candid shot some fanatic camera fan has taken, few people believe that recordings of their own voices bear much resemblance to actuality. "It sounds like my mother" the victim is apt to shout with glee, or "Just like my sister —but not at all like me." These comments are always based upon the wishful thought that auditory resemblances between members of a family group are unthinkable. The amazing thing is that many people faced with a first recording find that they are hearing a

reproduction vaguely reminiscent of some much-hated person. One does not always imitate one's ideals. Imitation is rarely a conscious matter. If you do not believe this, try a trip for two months to some part of our country not native to your family. Make an effort not to imitate the speech patterns you hear, and do not tell anyone of your plans for the trip. If, upon your return, your friends and family cannot detect the geographical direction which your journey entailed, you are a very unusual person, or possibly your hearing is defective.

Another interesting phenomena in the realm of voice analysis is that most people if asked to criticize their own voices, will name the defects to which they personally object with greatest vehemence. We have found in our clinic that most people, if asked what they expect to hear upon their first recording, will list their pet vocal hates. Some fear nasality more than anything—this seems especially true in the case of women—but actually nasality is a much rarer problem than generally believed. It is just that any unpleasant quality of voice is commonly called nasality—by the amateur critic—simply because that one-word description seems an adequate vocabularly. Many people who should know better will say that they expect to find their voices more nasal than usual because of a severe head cold. The inverse relation between blocked nasal passages and nasality is too obvious to dwell upon in such a meeting as this one.

I have tried to show the scientific and psychological hazards which beset the path of anyone who ventures into the realm of conjecture about human speech. He will find that scientists can adequately describe and define speech, and that they can produce it artificially in a laboratory experiment as in the case of the well-known Voder machine. Much research has centered upon the speech function of the human being, and a tremendous amount of money is invested annually in such voice-reproduction industries as the home radio and telephone. However, the nature of the human personality is such that although he is capable of describing and physically producing speech in a laboratory, he remains incapable of true objectivity in matters concerning his own speech.

Common Speech Problems

As in other fields of endeavor, workers in the field of speech have tended to lean upon other more established sciences, and to study the extreme vocal peculiarity more often than the garden-variety problems. Much work has been done for those with impaired hearing, cleft palate, and carcinoma of the larynx. No one working in the speech field remains in ignorance of the numbers of cases in delayed speech and stuttering, and even if cases of aphasic, spastic, and athetoid speech are considerably less frequent, large hospital and university clinics have cooperated upon the treatment of many such types. However, the simple, everyday problems of insufficient projection, poor placement, and slight defects of articulation rarely find their way into clinics. The reason for this, as I have already stated, is that most of us do not hear ourselves adequately, and that we are so accustomed to our voices that we have decided that they are a part of our personality and therefore incorrectable.

No musician would appear in public without assuring himself that his instrument was in good repair and prop-

erly tuned. However, some fine musicians are content to speak with such extreme throat constriction that no harmonic overtones are likely to result.

Much as the difference between excellent musical instruments and inferior makes is due to precision in the formation and texture of resonators and sounding boards, human voices, regardless of the amount of training in voice production, will be able to produce only such tone as the construction of the instrument permits. Few of us are in perfect proportion physically—some of us have large feet or long legs. Likewise, it often occurs that sizeable individuals have what we would term infantile larynxes, or have some congenital or acquired deformity of respiratory or vocal organs which makes a deviation from the normal tone necessary. However, organic reasons for poor voice are relatively fewer than believed. Many simple voice problems are functional or psychological rather than organic.

Good Tone Production

The bases of good tone production are to be found in good control of exhalation, in smooth, relaxed functioning of the laryngeal muscles, and in correct placement for adequate resonation. Most people work too hard in an effort to speak well. I suppose that this is true in all skills involving muscular coordination. I have been told that I would be able to perform to better advantage on skis if I would stop concentrating upon the activities of my feet and work for easy, yielding coordination. The army reports what theatre people have known for centuries, that more men receive mild injuries in jumping because they try to resist falling and make futile efforts to defy gravity, than for any other reason.

Relaxation of throat muscles to permit the normal position and shape of such resonators as the pharynx, goes a long way toward producing optimum pitch and tone of any poorly used voice. Fear, tension and anxiety are the most frequent causes of poor voice quality. Another frequent cause, which must be a familiar one to your profession, is long-term illness. Many who have experienced such illnesses carry voices suggestive of the sick room for the rest of their lives. The lack of physical strength for full phonation and projection was the original cause of the voice quality, but the ear tricks such sufferers into producing qualities it has heard over a long time, even after the original cause of the difficulty has disappeared.

Many individuals use vocal pitches characteristic of childhood rather than adult maturity. This is especially true of women, for young boys often consciously attempt deeper pitches at puberty. If you ever closed your eyes at a meeting of a women's club or in a throng of women at an annual sale in a department store, you could not help but become aware of the fact that not only women's contemporary fashions in clothes simulate extreme youth. The radio producer might use such a recording for a "Grade School Recess" sequence. This may be illustrated further by the current vogue for the *Vox Pop* type of radio program. Most of the unsuspecting people who are interviewed on such occasions sound to the millions of faithful followers regrettably like little children. That may provide a partial explanation of the interest in such radio material. Perhaps listeners feel superior when they see how vocally inadequate the man on the street is. They

feel sure that they would sound authoritative, business-like, and reassuring. Probably they would themselves appear at their worst. Such situations are conducive to rapid, shallow breathing, and general physical tension, both of which conspire to produce the worst vocal appearance rather than the best.

The number of vocal contacts which most professional people make today has focused attention upon the speaking voice even more dramatically than did the advent of the radio and the moving picture. Most working people should be considered as professional voice-users for better or for worse. In spite of this, it is amazing how many people think of their own visual impressions while comparatively few consider the vocal impression they create.

Recent studies of radio listening show that audiences tend to visualize the announcers and actors whose programs attract their daily attention. The result of this visual reaction to auditory stimulii might lead to the assumption that one could judge character and personality merely by listening to the voice and diction. Most students of voice would concede that there is some relationship here, but that voice does not mirror personality faithfully in many cases. Television may send some of today's popular radio characters into the limbo of lost actors just as the advent of sound track sent many of the silent movie heroes and heroines to their ultimate oblivion.

Perhaps you might like to have a few suggestions which you might use in advising your patients or assistants concerning the use of voice. The most obvious is the development of external assurance. Today, much national advertising is aimed at the general belief that he who can feel assured that his suit, collar, and tie are the work of reputable firms, can feel equal to any situation which may arise. Note a group of people on any city street who are faced with some crisis such as accident or fire, and you will see how soon confidence in individual appearance is lost when anything upsetting really happens. Too much reliance upon suitable costume has led many a promising young professional man or woman to the brink of disaster.

Another classic suggestion is to free the body for normal motion. The assumption here is that since the stimulation of the audience situation produces chemical and physical reactions within the body functionally, that general activity can help to produce the outlet for such energy as nature originally intended. Activity, per se, can be overdone, as all of us know. We have all heard those famous words of comment, "Your actions speak so loud that I cannot hear what you are saying."

Perhaps the best advice is to cultivate calm, easy, controlled beathing and a conscious relaxation of throat muscles. These can be developed through simple exercises. Try to assure those whom you would help that normal pitch and optimum tone cannot be produced except under relaxed conditions. Remember that emotion of the moment is apt to reveal itself in the pitch and quality of your voice. Physical release from anxiety and fear has been the active agent in many a case of amazing vocal improvement.

The development of a totally objective attitude is the most helpful thing of all. Secure a reasonably good recording of the speaking voice, and permit yourself your moment of disbelief upon first listening. Then settle down in some quiet and removed place and listen as

if the voice were utterly unrelated to yourself. Do not rely upon the advice of any but your most trusted friends. Determine whether the problem is one of pitch, placement, tone quality or duration. Then set about consciously to alter your usual pattern. Exaggeration is the best policy. Most people learn more quickly through exaggeration of the problem and of its opposite than through reliance upon gradual improvement. Remember that no voice is to be considered as "natural" and that no one could change the fundamentally individual characteristics of your voice regardless of length and diligence of study. You may learn through imitation of models that no matter how skillful you become in imitation, no one who really knows you or your model will be unable to differentiate between the two. Anyone who has normal vocal organs, capable of normal functioning, can develop a good voice. Your voice will always be characterized by your own qualities, and, theoretically, no one will ever be able to imitate it exactly.

Whatever course of self study one adopts for voice analysis, it must always be kept in mind that voice reflects general health. Whenever you are especially weary or irritable, your voice will reveal this in added tension and the introduction of non-harmonic or strident over-tones. It must also be borne in mind always that the condition of the teeth, especially in cases of malfitting appliances, overbite, underbite, and malocclusion, are often directly responsible for articulatory disorders. Finally, in some parts of this country, particular attention needs to be placed upon chronic or periodic recurrence of sinus infection or what is known as nasal catarrh. These conditions frequently cause laryngitis, and even edemas of the vocal cords. If your voice is husky or breaking in tone, the wisest procedure is to consult your physician before attempting any work upon the voice itself. In fact, this is the wisest procedure in any fairly severe voice case and is routinely required by most speech clinics.

It is hoped that professional groups, such as this one, may become increasingly aware of the vocal involvements in certain types of patients. Perhaps there is no professional group in which a good voice is of greater value than in the case of the nurse. The psychological effect upon your patients is extremely important. Your ability to further the aims of your profession, likewise, depends upon how fit a spokesman you may be for your program.

Summary

In closing, I should like to reiterate that some aspects of speech and voice are phenomena which continue to baffle the medical profession as well as the physicists and linguists; that the vocal function is the most intricate overlaid function of the nervous system; and that the human voice lends itself but poorly to self analysis. Finally, it is stressed that where no medical involvements are present, an objective attitude, a concentration upon the best application of energy and relaxation, can turn a poor vocal appearance into an excellent one. The difficulty with the individual problem in voice is that most of us tend to be self-conscious and defensive about our own voices rather than objective and experimental in attitude. Voice development is basically an individual and continuous affair. It has many psychological pitfalls and leads to many fallacious lines of individual reasoning. Some of the business machines which we are told will be in common use in

offices after the war, will force many people to face their own voices in just the manner I have suggested. I fear that the general marketing of these instruments will flood university and hospital speech clinics with calls from amazed self-analysts. But if the result is voice-consciousness on the part of the American people, the effect may be an excellent one. Highly unscientific processes of self evaluation will be eliminated, and we may all be privileged to hear ourselves as others hear us. Many of us will be as disbelieving as the savage who sees his picture for the first time. But after such a national disillusionment, there may come a wave of desire to catch up with the scientific instruments in the everyday production of human sound. Man's personal improvement is often said to linger far behind his physical control and understanding of his environment. There is no priority and no cartel governing the production of good vocal tone. It is his who will exert himself to attain it.

New England Assembly Being Formed

ASSOCIATION members will welcome the news that the New England States: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island, are being organized into an Assembly. It will be known as the New England Assembly of Nurse Anesthetists and will meet in conjunction with the New England Hospital Association, Statler Hotel, Boston, in March.

Tuesday and Wednesday mornings, March 13 and 14, will be devoted to visiting the anesthesia departments of the various Boston Hospitals. The Tuesday afternoon meeting will open at 2 P. M. at the Statler Hotel. A Symposium on "The Anesthetist's Plans and Tomorrow's Responsibilities" will be presented. Those participating will be an Anesthetist, a University Educator, a Director of School of Nursing, a Hospital Administrator, a Surgeon, and a Medical Physician. A paper will be given on "Choice and Management of Anesthesia for Thoracic Surgery." Following the Business Session, a tea will be given by the Massachusetts Association of Nurse Anesthetists. Members are invited to the hospital banquet on Tuesday evening.

Since Massachusetts is the only organized State in this group, it is hoped that members in the other New England States will not only attend his organizational meeting, but also will pass this information on to other members so as to assure a representative attendance from all States. *In Unity There Is Strength.* A strong New England Assembly will add that much more vitality to our National Organization.

All Hospital Administrators in New England will receive the Hospital Program which will include the anesthesia program. In this folder there will be a section on Anesthesia which can be detached. Nurse Anesthetists are asked to fill out and send this section on Anesthesia to Miss Maude A. Miles, Peterborough Hospital, Peterborough, New Hampshire. It is essential that the approximate attendance be known in advance of the meeting. Members Are Expected. Guests Are Invited.

ESTHER MYERS-STEPHENSON
7 Wolcott Road
Winchester, Massachusetts

Anesthesia for Total Laryngectomy

JULIUS W. McCALL, M.D.

Cleveland, Ohio

NO type of surgery calls for closer cooperation between anesthetist and surgeon than a total laryngectomy. The two must work as a single unit to insure a successful outcome for the patient.

At St. Luke's Hospital, Cleveland, since 1936, five laryngofissures and fifty-five total laryngectomies have been done for cancer of the larynx. There have been no surgical deaths in this series. No small part of this success has been due to the skill and meticulous care on the part of our anesthesia staff.

Refinements and Technique

Oftentimes many factors render operations on the respiratory passages more hazardous than certain operations on other parts of the body. More modern methods of surgery and anesthesia have contributed much to obtaining successful results in operations on the respiratory passageways. Not only is this true of refinements of technique in surgery and anesthesia for such operations as lobectomy, and pneumonectomy, but it is also true for operations at a higher level in the respiratory passages, namely, operations in and about the larynx.

For many years it was a general custom to employ local anesthesia almost exclusively for operations on the larynx. This has been due in a large measure to the influence of Chevelar Jackson, Sr., who advocated the use of local anesthesia for operation on the larynx, and also due to the fact that when Dr. Jackson developed his technique of laryngectomy many of the more modern methods of anesthesia were not available.

Inhalation anesthesia may be employed for laryngectomy, but the high incidence of post-operative pulmonary complication following laryngectomy carried out under any type of anesthesia forces me to question the advisability of employing inhalation anesthesia exclusively for this procedure.

Another factor which must be taken into consideration when operating on the larynx is the question of whether the surgeon is going to use electrical equipment of any kind. By this I refer to the Bovie or high frequency unit which is frequently employed to control hemorrhage. When the high frequency unit is used it is of paramount importance that a non-explosive, non-inflammable type of anesthetic be administered.

Since the more widespread use of pentothal sodium intravenously, it seemed rational in 1941 to employ this agent and method of anesthesia in operations for cancer of the larynx. This method of anesthesia in laryngectomy has provided results which appeared to be a considerable improvement over methods which had previously been employed; and pentothal has been used routinely on my patients since 1941 for laryngectomy. A number of men have voiced the opinion that pentothal is a questionable anesthetic for operations on the larynx because of the high in-

Read at the annual convention of the American Association of Nurse Anesthetists held in Cleveland, Ohio, October 2-5, 1944.

cidence of laryngospasm which has occurred when pentothal is employed. It is true that pentothal sodium appears to have a parasympathetic activity out of all proportion to some of the other anesthetic agents employed and occasionally we do see severe laryngospasm and bronchospasm during pentothal sodium anesthesia.

There seems to be a general impression among anesthetists and surgeons, that sodium pentothal is contraindicated in long operative procedures. We have not found this so. In one of the fifty-five total laryngectomies, the operative time was four hours and thirty minutes.

Value of More Than One Anesthetic

Lest you get the wrong impression, let me hasten to say that I never use pentothal for operations around the respiratory passages alone but always use it in conjunction with a local anesthetic agent, such as cocaine or novocaine or both.

Lundy has frequently stressed the value of using more than one anesthetic agent at one time. He has popularized the term "balanced anesthesia" to refer to the employment of more than one anesthetic agent at the same time, using small amounts of each agent to provide the end result rather than to try to use one anesthetic agent to its full extent. This applies very nicely to operations on the larynx, using proper amounts of premedication, employing local anesthesia and then supplementing it with enough intravenous anesthesia so that the desired results are obtained.

In operations about the larynx, particularly referring to laryngoscopy, under pentothal anesthesia, Adams has stated in his new book *Intravenous Anesthesia* that one should not attempt to obliterate the cough or gag reflex completely. If this is done anesthesia will probably be too deep at the end of the procedure. It is wise in situations of this kind to use some agent such as 10% cocaine before the patient is put to sleep with pentothal to obliterate the superficial reflexes of the larynx. This will materially reduce the amount of pentothal required for this procedure. I am in complete agreement with Dr. Adams on this point of using cocaine or other local drugs in conjunction with pentothal. I have seen cases in which operations were attempted about the mouth and larynx with pentothal, when a local agent was not employed along with the pentothal and severe laryngospasm and bronchospasm ensued. As a matter of fact, in situations of this kind when severe laryngospasm is complete one must usually resort to bronchoscopy with a rigid bronchoscope, which is a life-saving procedure.

Use of Endotracheal Tube

A recent refinement in the technique for laryngectomy has been the use of a short endotracheal tube with an inflatable cuff. This endotracheal tube measures only 9 cm in total length, is inserted in the trachea after the larynx is severed from the trachea. The inflatable balloon is distended with approximately 8 to 10 cc of air and secured in place. This permits an air tight passage way to the lungs and the balloon prevents any subsequent bleeding from the area of operation to enter the trachea or lungs. Since using an inflatable balloon on the small endotracheal tube, aspiration of blood from operative area has been eliminated—

patients maintain a better color, and the anesthetist has more direct control over respiration than when O_2 was insufflated. This endotracheal tube is connected by means of a metal elbow to the gas machine, on which the patient is given oxygen or any other mixture that one may desire to use. This is a direct connection to the gas machine and is leak proof, and if and when, if ever, the occasion arises, the patient may be readily inflated by rhythmic pressure of the breathing bag. The endotracheal tube, the adapter and rubber tubing are prepared surgically by boiling and are part of the sterile equipment for the use of the surgeon.

Present Technique at St. Lukes

The following technique is employed for laryngectomy at St. Luke's Hospital at this time:

Patient is pre-medicated suitably with pentobarbital sodium, morphine and atropine, the dose depending on the age, weight and physical state of the patient.

Under direct vision cocaine is applied to the throat and larynx. If this is difficult, by the use of laryngeal mirror frequently 10% cocaine can be sprayed on the vocal cords through direct vision of laryngoscope. An endotracheal tube is next inserted, or in cases where there is considerable obstruction in the larynx, and where difficulty might be encountered in using a soft rubber catheter, a rigid bronchoscope is passed into the trachea. Pentothal sodium is then started intravenously and the paient is aneshetized.

The reason the endotracheal tube or bronchoscope is employed at this juncture of the operation is to prevent the possibility of laryngospasm occurring with the induction of pentothal.

Frequently patients presenting themselves for laryngectomies are suffering from various degrees of oxygen want or hypoxia and we feel that it is definitely wise to provide an adequate passage way for air and oxygen. After the endotracheal tube is connected, or the bronchoscope, it is connected directly to the gas machine by which oxygen is administered.

Local anesthesia of the neck is accomplished with procaine infiltration. It is true that many of the simpler types of operation about the larynx may be done under local anesthesia exclusively. Where extensive dissection of the neck is required, as is the case in many of the patients presenting themselves with cancer of the larynx, it is a great comfort to the patient to be asleep, which fact in itself facilitates the work of the surgeon.

After the trachea is open a short endotracheal tube measuring about 9 cm in length, is introduced into the trachea. The inflatable balloon is then distended with air and direct connection made to the gas machine, and oxygen is then given by means of the gas machine directly connected to the tube in the trachea.

Oxygen by catheter is inserted into the tracheotomy tube and connected at the end of the operation and the patient is usually administered oxygen therapy for the first 24 hours post-operatively.

Carbon dioxide and oxygen inhalations are likewise employed hourly and the patient is encouraged to cough up any foreign material which may be present in the tracheo-bronchial tree.

The average dose of pentothal required for this operative procedure, depending of course on the size of the individual, is approximately between one and two grams.

Examinations

On November first, a letter was sent to 34 Schools of Anesthesiology, inviting them to participate in the examination program of the Association.

The Committee on Examinations wishes to express appreciation to the Schools listed below for the prompt response this letter received, being fully aware of the many hours of work involved in the compilation of this material. The examination questions are being compiled entirely from this material.

The work of this Committee is going forward as rapidly as possible under present conditions. It was hoped that the dates of the first examination could be given as this issue of the Bulletin goes to press, but the slowing up of transportation and delivery of mail during the month of December has made it impossible to do so. Just as soon as these dates are set, the schools and applicants will be notified. In the near future the schools and applicants will also be sent an outline of division of subjects for the examination. And all necessary information and instructions will be sent to the applicants prior to the examinations.

Examination material was received from the following Schools of Anesthesiology:

University of Minnesota Hospital,
Minneapolis, Minn.
Johns Hopkins Hospital,
Baltimore, Md.
Society of the New York Hospital,
New York
Maine General Hospital,
Portland, Maine
Mary Immaculate Hospital,
Jamaica, N. Y.
St. Marys of Nazareth Hospital,
Chicago, Ill.
Duke University Hospital,
Durham, N. C.
St. Vincent's Hospital,
Portland, Ore.
Jewish Hospital,
Philadelphia, Pa.
Wesley Memorial Hospital,
Chicago, Ill.
St. Mary's Hospital,
Detroit, Mich.
The Grace Hospital,
Detroit, Mich.
Ravenswood Hospital,
Chicago, Ill.
Mercy Hospital,
Chicago, Ill.
Mt. Carmel Mercy Hospital,
Detroit, Mich.
Massachusetts General Hospital,
Boston, Mass.
St. John's Hospital,
Springfield, Ill.
Mercy Hospital,
Pittsburgh, Pa.
St. Mary's Hospital,
Duluth, Minn.
St. Vincent's Hospital,
Worcester, Mass.
Sacred Heart Hospital,
Spokane, Wash.
University of Michigan Hospital,
Ann Arbor, Mich.
St. Francis Hospital,
Peoria, Ill.
St. Francis Hospital,
Pittsburgh, Pa.

Editorial

"Many a green isle needs must be
In the deep wide sea of misery."

—Percy Bysshe Shelley

(From Lines Written among the Euganean Hills)

NEVER IN THE HISTORY of mankind has necessity been more pressing in its need, or duty more imperative in its call to create, within this present chaos of destruction, citadels of good will from which to combat the forces of evil rampant in the world.

It is therefore of immense importance that all organizations designed to dispense and perpetuate good to humanity will be, during these hazardous times, nourished, strengthened and made more vitally useful, through the spirit and endeavors of their membership. This responsibility calls, even in times of great personal stress and strain, for greater effort, increased devotion, and clear thinking on the part of each individual member. It calls upon all for constant resistance to a pressing sense of futility and discouragement, which present catastrophic events impose. It calls for the exercise, often under harassing circumstances, of courage, fortitude and hopeful good cheer—in a good cause. It calls for the cultivation of common sense —the exercise of proportionate discrimination in the choice of real values, in determining a course of action most sure to serve best the common cause. It calls for restraint in not judging too hastily the force and significance of rapidly changing circumstances—being neither overly optimistic about gains or too pessimistic over losses. Imperatively it calls for faith—an abiding faith in the ultimate triumph of righteousness over the forces of evil. To be productive, such faith must be implemented into constructive service; to be effectual it must be constantly reinforced by resolution to do our part, however small, in efforts to end this terrible and devastating war.

Those entrusted with the guidance of such associations—forced to meet and overcome unparalleled circumstances which threaten to nullify past achievements and jeopardize present progress—may be fortified by the knowledge that agencies for good have in the past stamped out, in some cases, and greatly ameliorated, in others, conditions which, throughout the ages, threatened the freedom and welfare of mankind and impeded the progress of civilization. Confidently then we hold

firm to the belief that through coordinated, well-directed efforts and good will—present chaos will be reduced to order, intolerable conditions overcome, and this good earth became a place where all peoples may work together in freedom for the common good. The immense and vital part all branches of medical service will play in this continuing task can—because of its greatness—be now only dimly conceived. They will in very truth be "green islands" in "the wide deep sea of misery" now encompassing the earth.

Your Board of Trustees, deeply concerned that our Association should do its full part in this tremendous task, has carefully laid plans to increase efficiency of service by consolidating all organizational activities in one center. In accordance with this plan "The Bulletin" will, from now on, be issued from Chicago. Here it seems fitting and right to pay a tribute of praise to, and express appreciation of, the devotion and hard work of those of our members, who—literally starting from scratch—created and developed an official journal, of which we are all justly proud. Whatever may be the achievement and success of our new Publication Committee and editor in the future—and on that our hopes are high—the membership will long remember its debt to our *first* Publication Committee under the excellent leadership of its Chairman, Gertrude L. Fife. A purely voluntary effort—and a great gift. We now turn a fresh page in our history. What is written on that page will record for futurity the progress of our Association during a time of hard testing. This new year holds for us all a great challenge—a challenge to meet with fortitude and cheerful courage, hard and grim days. Let us unitedly resolve to act as if the success of this year's program depended for success on our individual cooperation and hard work. If we do this, confronting difficulties will be overcome, complex problems will be solved and 1945 will stand on record as a year of great achievement.

In a wider sense our endeavors will take on the garment of permanency *if* we regard our Association as a medium through which may be brought into being "flowering islands" of fruitful service to enrich the life of our nation. And let us all daily pray that such "green islands" may increase in number until the world's "wide deep sea of misery" becomes a green productive land, whereon free peoples may work together in creative efforts to cultivate and perpetuate for all time the arts and sciences of peace—the only sure wall of defense against aggressive forces of evil.

Agatha C. Hodgins

Chatham, Mass.
Dec. 29th, 1944

Bernard

The Editor

THE NEW EDITOR of the *Bulletin* is H. C. COMBS, PH. D., Assistant Professor of English in the University College of Northwestern University. He will welcome suggestions and comments by members of the A. A. N. A. toward the improvement of the *Bulletin*. Because your editor feels that articles by members of the Association offer the best public evidence of vitality within the organization, he will be glad to give all possible editorial assistance to members who will write for publication in the *Bulletin*.

Attention All Associate Members

MIRIAM G. SHUPP
Strong Memorial Hospital
Rochester, N. Y.

Did you read the report of the Committee on Examinations, published in the November issue of the Bulletin?

The following paragraph which is taken from that report was approved by the membership at the October meeting in Cleveland—"that within six months the total associate membership shall re-apply. Those who have been Associate Members for more than two years shall re-apply as new members. If accepted, they shall be accepted *without examination* to active membership status. Their eligibility for inactive membership status shall then be determined upon application for inactive membership.

"The present Associate Members who have been Associate Members for less than two years shall make application for inactive membership."

Some of the Associate Members have been asking: Why is this necessary? The reason is that there is no longer an associate membership class. This class has been abolished. All Associate Members who wish to retain membership in the American Association of Nurse Anesthetists must, therefore, establish their eligibility for and transfer over to inactive membership within this six month's period.

This is done in the following manner: Those who have been Associate Members for less than two years merely establish their eligibility for inactive status according to Article 1, Section 4, A of the By-laws.

"Inactive membership may be granted to Active Members not actively employed in anesthesiology. Application for transfer to inactive membership shall be made to the Executive Secretary on a form provided by the Association and shall be accompanied by a statement signed by two Active Members certifying that the applicant is not actively employed in anesthesiology. Applications for renewal of inactive membership shall be made annually and shall be accompanied by a statement signed by two Active Members certifying that the applicant is not actively employed in anesthesiology. The approval of all applications for inactive membership and for renewal of inactive membership shall rest with the Committee on Credentials."

Those who have been Associate Members for longer than two years must establish their eligibility for inactive membership first on the basis of Article V, Section 4,B of the previous By-laws: "An associate member, who was approved as an Active Member and paid dues as such, but for satisfactory reasons became an Associate Member and who again desires active membership after a period of more than two years, must re-apply for active

membership"; secondly, in accordance with Article I, Section 4-A (quoted above).

At this point you may again say why is all this necessary? This is the conclusion of the matter. Again quoting from the By-laws, Article I, Section 4, B and C: "An Inactive Member may resume her status as an Active Member by payment of current dues for an Active Member"; "an Inactive Member shall retain all the rights and privileges of an Active Member."

Questions and Answers

1. Q. *What is the Committee on Credentials?*

A. Under the revised By-laws the Committee on Credentials replaces the membership committee. This Committee passes upon the qualifications of each applicant and accepts or rejects her for examination.

2. Q. *What is the Committee on Examinations?*

A. This is the Committee which has been created to conduct the examinations of applicants for membership in the Association.

3. Q. *On what does the Committee on Credentials base their approval or rejection of an applicant for examination?*

A. On Article I, Section 3 of the By-laws these qualifications, in brief, are as follows: an applicant must have been graduated from an accredited high school or its equivalent; must have been graduated from an accredited school of nursing; must hold current state registration for nurses; must be a person of good moral and ethical standing in the profession of nursing; must have been *graduated* from a school of anesthesiology giving an organized course of not less than six months' duration and otherwise meeting the standards of the Association.

4. Q. *Are these the only persons who are eligible to take the qualifying examinations?*

A. No. If an applicant were graduated from a school of anesthesiology prior to 1939 which gave an organized course of 4 to 6 months' duration, this is accepted in lieu of a six-month course since 1939. Or, if an applicant has not had a formal course in anesthesiology but has been administering anesthetics continuously since 1933 in hospitals approved by the American College of Surgeons and is so employed at the time of making application, this is acceptable in lieu of a six months' course since 1939.

5. Q. *Is it proper for a member of this Association to use the designation or letters "R.N.A." following their signatures?*

A. No. Members of this Association should not use these letters following their signature. When a member uses "R.N.A." following her signature, she states that she is a "Registered Nurse Anesthetist." This is incorrect. There is no registration of nurse anesthetists.

6. Q. *What designation or letters may a member rightfully use to show that she is a member of the American Association of Nurse Anesthetists?*

A. A member is privileged to use the designation M.A.A.N.A. upon articles of publication and upon other appropriate occasions (Article I, Section 9 of the By-laws).

7. Q. *What is an Inactive Member?*

A. An Inactive Member is a member who has been permitted to transfer from active membership because she is no longer actively engaged in the field Associate membership has been abol ished.

8. Q. *What is a Contributing Member?*

A. A Contributing Member is an Active Member who desires to help in the support of our Association by voluntarily paying membership dues in excess of the stated amount for Active Members. Annual dues of $15.00 entitles an Active Member to be classified as a Contributing Member.

9. Q. *What is a Sustaining Member?*

A. A Sustaining Member is an Active Member who desires to help in the support of our Association by voluntarily paying membership dues in excess of the stated amount for Active Members. Annual dues of $25.00 entitles an Active Member to be classified as a Sustaining Member.

10. Q. *What is an Institutional Member?*

A. Your hospitals are now eligible for Institutional membership in our Association. Through the influence of the individual members of our Association it is hoped that every hospital in which our members are employed shall become an Institutional Member of our Association. Application blanks for this type of membership will be available at the Executive Office.

Payment of Dues

The question of accepting dues for 1944 has been referred to the Board of Trustees and it has been decided that dues for 1944 will be accepted if paid before April 1, 1945. The By-laws accepted at the business meeting, October, 1944, differ from the 1942 By-laws in regard to payment of back dues, according to which members whose dues had not been paid for two years could be reinstated by the payment of back dues but if more than two years had elapsed since payment of dues the member was required to make application as a new member.

According to the By-laws accepted in October, 1944, dues are payable in advance to the Association at the beginning of each fiscal year (September 1). "A member whose dues are in default for more than six months of the current fiscal year shall be dropped from membership." "An Active or Inactive Member dropped for non-payment of dues may be re-instated to membership during the fiscal year (September 1-August 31 inclusive) in which membership lapsed by payment of current dues plus a penalty fee of three dollars" "A member dropped for non-payment of dues may be re-admitted after this period only as a new applicant in accordance with current eligibility requirements."

Dues for 1945 must be paid before March 1, 1945, according to the above.

Corrections in Membership List

Williams, Lucile, Central of Georgia Railway Company Hospital, Savannah, Georgia. The name was mispelled Lucille in the August Bulletin.

Ensign Margaret A. Moore, of Pennsylvania, should be listed as *Lt.* Margaret A. Moore.

Questions and Answers About 1944 Revision of By-Laws

1. Q. *What is the Committee on Credentials?*

   A. Under the revised By-laws, the Committee on Credentials replaces the Membership Committee. This Committee passes upon the qualifications of each applicant and accepts or rejects them for examination.

2. Q. *What is the Committee on Examinations?*

   A. This is the Committee which has been created to conduct the examination of applicants for membership in the Association.

3. Q. *What is the "Executive Office?"*

   A. The name Headquarters has been abolished. The office in Chicago will henceforth be known as "Executive Office."

4. Q. *What does M.A.A.N.A. mean?*

   A. M.A.A.N.A. means member of the American Association of Nurse Anesthetists. Members are privileged to use this designation upon articles of publication and upon other appropriate occasions. R.N.A. should not be used by members.

5. Q. *What is an Inactive Member?*

   A. An Inactive Member is a member who has been permitted to transfer from Active membership because she is no longer actively engaged in the field. The term Associate Member has been abolished.

6. Q. *What is a Contributing Member?*

   A. A Contributing Member is an Active Member who desires to help in the support of our Association by voluntarily paying membership dues in excess of the stated amount for Active Members. Annual dues of $15.00 entitles an Active Member to be classified as a Contributing Member.

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Activities of State Associations

Arkansas

The annual meeting of the Arkansas Association of Nurse Anesthetists was held October 12, 1944, in the Silver Room of the Albert Pike Hotel, Little Rock. President Claudia Howard McMillin presided.

Following a dinner and business meeting, Mrs. McMillin read a paper, "The Nurse Anesthetist Today and Tomorrow," by Esther E. Edwards, R.N., Supervisor of Anethesia, Wausau Memorial Hospital, Wausau, Wisconsin. Pentothal Sodium was discussed at a round table. It was voted to contribute annually to the proposed lending library for nurse anesthetists.

Officers Elected

Mrs. Claudia Howard McMillin, President
1311 Louisiana St., Little Rock
Mrs. B. B. Boozman, 1st Vice-President
906 N. 15th St., Fort Smith
Lela Belle England, 2nd Vice-President
Searcy
Eva Atwood, Secretary-Treasurer
Fort Smith

Directors

Ruth Eldred
Blanche Petty
Martha Brown
Adalene Montgomery

Indiana

Lt. Jennie P. Benefiel, of Indiana, has been promoted to the rank of 1st Lieutenant. Her letter, which she wrote by candle light, was dated September 14, 1944. At that time she had been in France for three months and was getting "plenty of experience in Sodium Pentothal and endo-tracheal anesthesia."

Iowa

Miss Verna E. Olmsted has announced her resignation as treasurer of the Iowa State Association of Nurse Anesthetists. In a letter to the executive secretary, dated November 2, 1944, Miss Olmsted said that she was leaving the state of Iowa. Mrs. Mary Culp, of Mercy Hospital in Des Moines, has been appointed to take her place.

Louisiana

Mrs. Rosalie S. German has resigned as secretary for the Louisiana State Association of Nurse Anesthetists. The new secretary is Ellen McMahon, 2220 Constance Street, New Orleans.

New Jersey

The regular meeting of the New Jersey State Association of Nurse Anesthetists was held on October 18, 1944, at the Academy of Medicine, Newark, N. J., with Helen F. White presiding. Twenty-two members and four applicants answered the roll call.

Mrs. White gave a very interesting and detailed report of the national convention which took place in Cleveland earlier in October. A drawing for two $25.00 War Bonds resulted in a profit of $225.41 for the treasury. Miss Mae Stone, Anesthetist at Presbyterian Hospital, Newark, was the winner of one bond, and Dr. Oscar Glass, 838 S. 12th Street, Newark, was the winner of the other.

Mrs. Dorothy N. Ball,
Secretary-Treasurer

New York

Officers

Mrs. Pauline E. Zawistowski, President
Mrs. Alma Van Gorden, Vice President
Miss Ann D. Buckley, Secretary
Miss Martha K. Glenn, Treasurer

Committees for 1944-1945

Membership Committee

Miss May A. Danaher
1845 Becker Street
Schenectady, N. Y.

Miss Elsa E. Franke
1484 Glenwood Blvd.
Schenectady, N. Y.

Miss Helen L. Patton
62 Chestnut Street
Cohoes, New York

Nomination Committee

Miss Frances Robinowitz
Staten Island Hospital
Staten Island, N. Y.

Legislative Committee

Miss Cora McKay
Albany Hospital
Albany, New York

Board of Trustees

Mrs. Charlotte McCoy
New York Hospital
New York City, N. Y.

Miss Marion Suhrhoff
Mary Immaculate Hospital
Jamaica, L. I., N. Y.

Miss Genevieve Bush
Memorial Hospital
Catskill, New York

Revision Committee

Miss Beatrice Scott—Chairman
Long Island College Hospital
Brooklyn, N. Y.

Mrs. Regina Lynch Buford
Morrisannia Hospital
Bronx, New York

Miss Janet B. Dougan
Morrisannia Hospital
Bronx, New York

Historian Committee

Mrs. Roberta Slovak
12 Union Street
Schenectady, N. Y.

Auditing Committee

Mrs. Ethel Burch Prime
12 Hempstead Avenue
Rockville Centre, New York

Convention Program Committee

Martha Ponti
U. S. Marine Hospital
Staten Island, New York

Martha Henneberger
Woman's Hospital
New York 25, N. Y.

Educational Committee

Mrs. Frances Hess—Chairman
Long Island College Hospital
Brooklyn, N. Y.

Miss Marion H. Suhrhoff
Mary Immaculate Hospital
Jamaica, L. I., N. Y.

Convention Arrangement Committee

Mildred Cook
Coney Island Hospital
Brooklyn, N. Y.

Mrs. Josephine DeFelice Cahill
129 West 70th St.
New York City, N. Y.

North Carolina

The fourth annual meeting of the North Carolina State Association of Nurse Anesthetists was held at the Hotel Sir Walter in Raleigh on Saturday afternoon, October 14, 1944. The program which the president, Mrs. Addie F. Medlin, announced in the November issue of the Bulletin was changed in only two points. Dr. C. E. Norris, of Baltimore, Md., spoke in place of Dr. Ivan M. Proctor on the

subject of "The Relation of the Anesthetist to the Surgeon." Dr. Norris, who is a representative of the Puritan Compressed Gas Corporation, also gave the highlights of the National Convention which was held in Cleveland in October.

After the business session, a motion picture of the Esther Meyers Stevenson post-graduate course in anesthesia was shown by Dr. K. L. Johnson.

The convention was adjourned on Saturday night with a banquet in the Roanoke Room of the Hotel Sir Walter. Durham was chosen as the scene of the fifth annual meeting in 1945, and the Washington Duke was designated as convention headquarters. It was decided to elect a complete slate of officers at the 1945 meeting.

Oregon

Miss Ruth Schierman had an opportunity to attend school in California and resigned as president of the Oregon Association of Nurse Anesthetists. The first vice-president, Mrs. Esther Sanders, 2282 N. W. Northup, Portland 10, has succeeded Miss Schierman as president.

Miss Mary Davis, the secretary of the Oregon Association, in her report of the December meeting, makes the following comment: "Considerable discussion was devoted to the best means of bringing the fact before the doctors that we are an organized group. It was decided to put on some educational program, writing to the chief of staff of each hospital and inviting their attendance."

Committees for the year are made up of the following members:

Membership Committee

Mrs. Josephine Bunch
Miss Mildred White
Mrs. Marion Turner

Revisions Committee

Miss Jeanne Fagan
Miss Margaret Giddings
Sister Agnes de Boheme

Program Committee

Miss Aimee Doerr
Miss Zola Pikesh
Mrs. Ruth Pobochenko

Publications Committee

Mrs. Elizabeth Johnson
Mrs. Marion Sequen

Sick Committee

Mrs. Margaret French
Miss Carrie Nelson
Mrs. Florence Toon Shelton

Pennsylvania

The Third War Conference of the Pennsylvania State Association of Nurse Anesthetists will be held April 18-19, 1945 at the Bellevue Stratford Hotel, Philadelphia, Pa.

HELEN YOUNG WALKER,
Secretary-Treasurer

Utah

The Utah State Association of Nurse Anesthetists met at the L. D. S. Hospital in Salt Lake City on November 1, 1944. Miss Mayme C. Garrison reported on the National Convention in Cleveland. The election of officers was an important part of the meeting. It was decided that in the future, the election of officers should take place in May and that the new officers should assume office on September 1, at the beginning of the fiscal year. The officers and committees for 1945 are these:

President

Mayme C. Garrison
463 D. St., Salt Lake City 3

Vice-President

Lodema J. Bowman
1168 E. 8th So., Salt Lake City 2

Secretary-Treasurer

Ellenor M. Lee
23 So. 8th East No. 3, Salt Lake City 2

Board of Directors
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Lodema J. Bowman
Ellenor M. Lee
Asenath Bigler
Lola McGillivray (3 year member)
Roberta J. Harris (2 year member)
Vilo Redd (1 year member)

Credentials Committee
Vilo Redd, Chairman
Hazel Nelson
Asenath Bigler

Revision-Legislative-Finance Committee
Mayme C. Garrison, Chairman
Ellenor M. Lee
Annie J. Hall

Education-Program Committee
Lodema J. Bowman, Chairman
Margaret Myers
Mary Aaby

Sunshine Committee
Annie J. Hall, Chairman
Lola McGillivray
Sarah Bergstrom

Historian
Asenath Bigler

Wisconsin

The Wisconsin Association of Nurse Anesthetists met in Wausau on November 4, 1944. The afternoon session, at the Y.W.C.A., included, in addition to the business meeting and a tea, the presentation of two papers: "Curare in Anesthesia," by Katherine Jurgensen, of Minneapolis, Minn., and "The Nurse Anesthetist Today and Tomorrow." by Esther E. Edwards, of Wausau, Wisconsin.

The evening meeting was held at the Wausau Club, with Dr. Merritt LaCount Jones presiding as toastmaster at the dinner. Mr. Mark Byers, of Wausau, spoke on the subject of "Prospects of Peace."

IN MEMORIAM

Mrs. Alice Stephens McWherter passed away in Detroit on November 7th, 1944. Mrs. McWherter was a graduate of the Grace Hospital School of Anesthesiology and for many years was on the staff at Wyandotte General Hospital, Wyandotte, Michigan. She had been a member of the American Association of Nurse Anesthetists since 1937.

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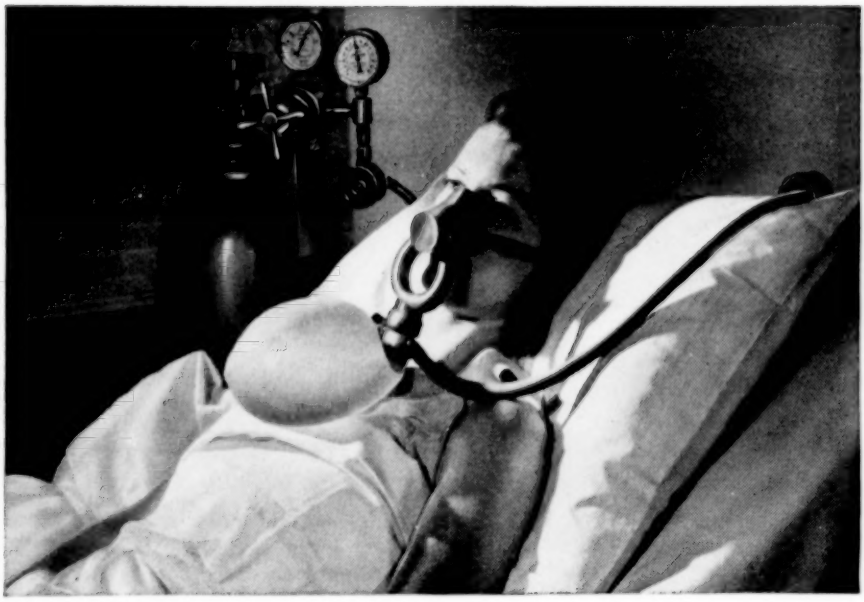

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